

ABSTRACT**IMPROVING THE PERFORMANCE OF A CACHE BY INCLUDING A TAG
THAT STORES AN INDICATION OF A PREVIOUSLY REQUESTED
ADDRESS BY THE PROCESSOR NOT STORED IN THE CACHE**

5 A method and system for improving the performance of a cache. The cache may include a tag entry that identifies the previously requested address by the processor whose data was not located in the cache. If the processor requests that address a second time, then there is a significant probability that the address will be accessed again. When the processor requests the address identified by the tag entry a
10 second time, the cache is updated by inserting the data located at that address and evicting the data located in the least recently used entry. In this manner, data will not be evicted from the cache unless there is a significant probability that the data placed in the cache will likely be accessed again. Hence, data may not be evicted in the cache by the processor and replaced with data that will not be reused, such as in an
15 interrupt routine.

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